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10/532,108

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EXAMINER

CHUI, MEI PING

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/532,108	<b>Applicant(s)</b> KURITA ET AL.	
	<b>Examiner</b> MEI-PING CHUI	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6 and 8-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 8-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>N/A</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Action***

- (1) Receipt of Amendments/Remarks filed on 03/14/2008. Claims 1-4 and 11 have been amended. Claims 5 and 7 have been cancelled and new claims 12-15 have been added in the Reply.
- (2) Upon further search and consideration by the Examiner, Applicant's amendment necessitated the new ground of rejections presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL.**

### ***Status of Claims***

Accordingly, claims 1-4, 6 and 8-15 are presented for examination on the merits for patentability as they read upon the elected subject matter.

Rejections and/or objections not reiterated from the previous Office Action are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set of rejections and/or objections presently being applied to the instant application.

### ***Claim Rejection - 35 U.S.C. § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use

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or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-3, 6 and 8-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishi et al. (U. S. Patent No. 6,620,421).**

The instant claims are directed to a composition comprising water dispersible granules, wherein the water dispersible granules each made of a mixture consisting essentially of: **(a)** at least one agrochemical active ingredient in solid or liquid form; **(b)** at least one surfactant, i.e. sulfonate-type, sulfate-type or phosphate-type; **(c)** at least one metal salt of a fatty acid having 6 to 28 carbon atoms; and **(d)** at least one water-insoluble solid carrier.

**With respect to claim 1**, Nishi et al. disclose a water dispersible granule for crop applications, which has a high disintegrability in water, comprising a pesticidally active ingredient, a surfactant, a metal salt fatty acid having 18 carbon atoms (column 5, line 11; column 6, line 62-63; line 56-57; column 7, line 8-13 and column 8, line 15-17 and 20-21). Nishi et al. disclose that the composition also comprises water insoluble solid carriers, wherein the water solid insoluble carriers are precipitated silica, kaolin, diatomaceous earth or attapulgite (column 6, lines 50-51 and 55-57). Therefore, the instant claim 1 is anticipated.

**With respect to claims 2, 3 and 10**, Nishi et al. disclose that the composition comprises hydrophobic material or water-repellent material, i.e. metal salts of fatty acid. More specifically, the metal salts of fatty acid contain 18 carbon atoms, i.e. sodium stearate, calcium stearate, magnesium stearate, zinc stearate, barium stearate and aluminum stearate (column 8, lines 12-17). Nishi et al. further disclose that the metal salt of fatty acid is present in an amount of 10 % or less by weight of the composition (column 8, line 25-

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26), which anticipates the amount of 0.05 % to 10 % of the metal salt of fatty acid as instantly claimed. Therefore, the instant claims 2, 3 and 10 are anticipated.

**With respect to claims 6 and 9**, Nishi et al. also disclose that the composition can comprise anionic surfactants, i.e. alkylsulfate, alkylaryl sulfonate, alkenylsulfonate or ligninsulfonate, which can be used alone or in combination with two or more surfactants, and is present in an amount of 40 % or less relative to the weight of the composition (column 7, line 8-18), which anticipates the amount of 0.5 % to 30 % of the surfactant as instantly claimed. Therefore, the instant claims 6 and 9 are anticipated.

**With respect to claim 8**, Nishi et al. further disclose that the pesticidally active ingredient of the composition is present in an amount of 1 to 75 % by weight relative to the weight of the composition, which anticipates the amount of 0.1 % to 85 % of the agrochemically active ingredient as instantly claimed (column 5, line 11-14). Therefore, the instant claim 8 is anticipated.

**With respect to claim 11**, Nishi et al. disclose that the water insoluble solid carrier of the composition is present in an amount of 70 % or less by weight relative to the total weight of the composition, which anticipates the amount of 5 % to 95 % of the water insoluble solid carrier as instantly claimed (column 6, line 50-61). Therefore, the instant claim 11 is anticipated.

**With respect to claims 12-15**, Nishi et al. disclose that the composition comprises hydrophobic materials or water-repellent materials, i.e. metal salts of fatty acid; more specifically, the metal salts of fatty acid are those having 18 carbon atoms, i.e. sodium stearate, calcium stearate, magnesium stearate, zinc stearate and barium stearate (column 8, lines 12-17). Nishi et al. also disclose the composition comprises a pesticidally active

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ingredient, a surfactant, i.e. alkylsulfate, alkylaryl sulfonate, alkenylsulfonate or ligninsulfonate, and water insoluble solid carriers, i.e. precipitated silica, kaolin, diatomaceous earth and attapalgite (column 5, line 11; column 6, lines 62-63 and lines 56-57; column 6, lines 50-51 and 55-57; column 7, lines 8-13 and column 8, lines 15-17 and 20-21). Therefore, the instant claims 12-15 are anticipated.

**With respect to the limitation as recites in claims 12-13** where the metal salt of C<sub>6</sub>-C<sub>28</sub> fatty acid has a solubility in water of 100 p.p.m. or less at 20 °C, the U.S. Patent Office is not equipped with analytical instruments to test prior art composition for the infinite number of ways that a subsequent applicant may present previously unmeasured characteristics. When as here, the prior art appears to contain the exact same metal salts of fatty acid and applicant's own disclosure supports the suitability of the prior art composition as the inventive composition component, the burden is properly shifted to applicant to show otherwise.

**With respect to the limitation recites in claims 1-3, 10 and 12-15**, where the metal salt of C<sub>6</sub>-C<sub>28</sub> fatty acid is capable of acting as antifoaming agent, is anticipated by Nishi et al. The anticipation by Nishi et al. is based on the fact that a chemical compound and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present (see MPEP 2112.01).

### ***Response to Arguments***

Applicants' arguments filed on 03/14/2008 have been fully considered but they are not persuasive.

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(1) Applicant argues that the water-dispersible granule disclosed by the Nishi reference must be composed of a combination of five essential components which include: (1) a pesticidally active ingredient; (2) a copolymer of maleic anhydride and di-isobutylene; (3) an ether sulfuric acid ester or an ether phosphoric acid ester; (4) a water-soluble carrier; and, (5) a water-swellaable material. It is by the combination of these five essential components, that the water-dispersible granule composition of the Nishi reference may have a disintegrability and dispersibility in water.

The argument is not persuasive because the prior art Nishi et al. is directed to water dispersible granules that have high disintegrability and dispersibility in water, and the instantly claimed invention is also directed to water dispersible granules having disintegrability and dispersibility in water.

Although the instant claims recite the transitional phrase "consisting essentially of" for the agricultural granular composition, there is no support or definition of this phrase disclosed in the instant specification. Since there is no evidence that the inclusion of the prior art component(s) would materially affect the basic and novel characteristic (disintegrability and dispersibility) of the claimed invention, a 'consisting essentially of' claim that occupies a middle ground between closed claims that are written in a 'consisting of' format and fully open claims that are drafted in a 'comprising' format", "consisting essentially of" will be construed as equivalent to "comprising". If an applicant contends that material(s) in the prior art are excluded by the recitation of "consisting essentially of", applicant has the burden of showing that the introduction of component(s) would materially change the characteristics of applicant's invention (see: MPEP 2111.03).

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(2) Applicants also argue that the Nishi reference does not disclose or explain what effect or function is achieved by incorporating a copolymer of maleic anhydride and diisobutylene and either an ether sulfuric acid ester or an ether phosphoric acid ester in the water-dispersible granule, it is evident that the incorporation of these two essential components is an absolute necessity. The instantly claimed water-dispersible granules of the present application, however, never contain a copolymer of maleic anhydride and diisobutylene. Accordingly, as explained further below, the granular composition in claim 1 of the present application is clearly not disclosed by the granule described in the Nishi reference.

The argument is not persuasive because Nishi et al. clearly disclosed that the copolymer of maleic anhydride with diisobutylene (sold under trade name GAROPAN T-36) is used as surfactant (see column 13, Example 8, lines 3-8), and it is known in the art that GAROPAN T-36 is a synthetic polymer of sodium polycarboxylate that can be used in agrochemical formulations, as evidenced by Rhodia-Novecare Product Guide (see product guide of Rhodia-Novecare: Home, Personal Care & Industrial Ingredients, retrieved online 06/24/2008). Since the instant specification also discloses that surfactants, i.e. anionic surfactant polycarboxylate, can be additionally incorporated in the composition (see instant specification: page 15, lines 25-29 and page 16, lines 1-7). Evidently, the prior art surfactant such as copolymer of maleic anhydride with diisobutylene can be included in the instant composition to give the basic and novel characteristic (disintegrability and dispersibility) of the claimed invention.

With respect to an ether sulfuric acid ester or an ether phosphoric acid ester as disclosed by Nishi et al. (see column 5, lines 35-36 such as polyoxyethylene nonyl phenyl ether phosphoric acid ester), it appears to be the same as the instantly claimed phosphate-type or sulfate-type



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surfactant (see instant specification: page 15, lines 22-23, such as polyoxyethylene nonyl phenyl ether phosphate and sodium salt). Therefore, it is evident that the incorporation of an ether sulfuric acid ester or an ether phosphoric acid ester component in the Nishi's composition is also an necessity component of the claimed invention in order to give the basic and novel characteristic (disintegrability and dispersibility).

(3) Applicants further argue that the metal salt fatty acid having 6 to 18 carbon atoms is merely an optional component and is just an example of "hydrophobic/water-repellant material" which may additionally be omitted from the granule of the Nishi reference. (See column 8, lines 7-27 of the Nishi reference.) Thus, the optional nature of the component(s) even further differentiates the claimed granular composition of the present application from the granule of the cited Nishi reference.

The argument is not persuasive because Nishi et al. clearly disclose that the hydrophobic/water-repellant material can be included for the purpose to reduce the sedimentation in water or to improve the dispersion speed of the granules when they are added into water. Nishi et al also disclose that such hydrophobic/water-repellant material includes metal salts of fatty acid, i.e. calcium stearate, magnesium stearate, sodium stearate, zinc stearate, barium stearate or aluminum stearate (column 8, lines 7-17). Evidently, the inclusion of the hydrophobic/water-repellant material, i.e. metal salts of fatty acid, is necessary in order to obtain granules that are water dispersible.

Therefore, the granular composition of the instant claimed invention as recites in claims 1-3, 6 and 8-15 are being anticipated by Nishi et al.

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***New Ground of Claim Rejection***

***Claim Rejection - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al. (U. S. Patent No. 6,620,421) in view of Carroll et al. (U. S. Patent No. 2,965,510).**

***Applicants Claim***

Applicants claim a composition comprising water dispersible granules, wherein the water dispersible granules each made of a mixture consisting essentially of: **(a)** at least one agrochemical active ingredient in solid or liquid form; **(b)** at least one surfactant, i.e. sulfonate-type, sulfate-type or phosphate-type; **(c)** at least one metal salt of a fatty acid having 6 to 28 carbon atoms; and **(d)** at least one water-insoluble solid carrier; and wherein

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the metal salt of fatty acid is a mixture of sodium salts of mixed fatty acids, namely a soap, consisting fatty acids having 6 to 28 carbon atoms.

***Determination of the scope and content of the prior art***

***(MPEP 2141.01)***

The teaching of Nishi et al. has been set forth above. Essentially, Nishi et al. teach a water dispersible granule for crop applications, which has a high disintegrability in water, comprising a pesticidally active ingredient, a surfactant, a metal salt fatty acid having 18 carbon atoms (column 5, line 11; column 6, line 62-63; line 56-57; column 7, line 8-13 and column 8, line 15-17 and 20-21). Nishi et al. teach that the composition also comprises water insoluble solid carriers, wherein the water solid insoluble carriers are precipitated silica, kaolin, diatomaceous earth or attapalgite (column 6, lines 50-51 and 55-57).

Nishi et al. further teach that the composition can comprise metal salts of fatty acid. More specifically, the metal salt of fatty acid is sodium stearate which has 18 carbon atoms (column 8, lines 12-17).

***Ascertainment of the difference between the prior art and the claims***

***(MPEP 2141.02)***

Although Nishi et al. teach that the composition also comprises alkali metal salt of a C<sub>18</sub>-fatty acid, i.e. sodium stearate, and other alkaline earth metal salts of C<sub>18</sub>-fatty acid, Nishi et al. do not explicitly teach the alkali metal salt of fatty acid is a mixture of sodium

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salts comprised of mixed fatty acids which have 6 to 28 carbon atoms. However, this deficiency is cured by the teaching of Carroll et al.

Carroll et al. teach a composition in slurry form comprising water, dispersant and anti-foaming agent, whereby foaming of the slurry is greatly reduced or eliminated (column 1, lines 14-18). Carroll et al. also teach that the anti-foaming agent employed in the slurry composition is alkali metal, i.e. sodium or potassium, soap of a higher aliphatic fatty acid having 14 to 25 carbon atoms, wherein the fatty acid is preferably a fatty acid, or a mixture of fatty acids with a carbon chain of 16 to 18 carbon atoms, i.e. stearic acid (C<sub>18</sub>), palmitic acid (C<sub>16</sub>) and oleic acid (C<sub>18</sub>) (column 2, lines 15-16 and 23-33).

Carroll et al. further teach that the anti-foaming agent is usually added to the water as a dilute aqueous solution (column 2, lines 39-41 and 51-52).

***Finding of prima facie obviousness Rational and Motivation***

***(MPEP 2142-2143)***

It would have been obvious to a person of ordinary skilled in the art at the time the invention was made to combine the teachings of Nishi et al. and Carroll et al. to arrive at the instantly claimed invention.

One of ordinary skill would have been motivated to choose either alkali metal salt of a fatty acid or alkali metal salt of a mixture of fatty acids as anti-foaming agent for use in an aqueous composition because they both are used as anti-foaming agent and are capable of reducing or eliminating the foam formation in an aqueous composition, as taught by

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Carroll et al. Therefore, they are functional equivalent anti-foaming agent and can be used interchangeably.

From the teachings of the reference, it would be obvious that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

### ***Conclusion***

No claims are allowed.

Applicant's amendment filed and adding new claims necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Contact Information***

Any inquiry concerning this communication from the Examiner should direct to Helen Mei-Ping Chui whose telephone number is 571-272-9078. The examiner can normally be reached on Monday-Thursday (7:30 am – 5:00 pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where the application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either PRIVATE PAIR or PUBLIC PAIR. Status information for unpublished applications is available through PRIVATE PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the PRIVATE PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616